

# The Effects of Self-directed Learning on Student's Learning Outcomes in Health Assessment and Physical Examination

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## Purpose

Health assessment and physical examination (HAPE) is a professional core course for nursing students. The purpose of the study was to explore the effects of a self-directed learning program on students' learning in a HAPE course.

## Methods

**Design:** An unequal control group of quasi-experiment.

**Sample:** A purposive sample recruited from a university of Science and Technology in central Taiwan, those sophomores who were taking the course of the physical examination (PE) were invited to participate in the study. The control group (N=41) received a traditional teaching method; The treatment group (N=48) received strategies of self-directed learning.

**Outcomes indicators:** the self-directed learning readiness, the learning goals & satisfaction, motivation, interpersonal relationship & communication..

Table 1. Interpersonal relationship score changes of experimental group

| Variable                            | Experimental Group |               |           |
|-------------------------------------|--------------------|---------------|-----------|
|                                     | Pretest (M)        | Post Test (M) | t         |
| Interview Skills                    | 11.13              | 13.52         | -4.35***  |
| Counselling & Information providing | 6.02               | 12.58         | -11.77*** |
| Relationship Building               | 8.61               | 12.72         | -9.20***  |
| Personal Attitude                   | 3.52               | 6.13          | -8.05***  |
| Total                               | 29.27              | 44.42         | -9.717*** |

Table 2. The perceived level of learning goal attainment

| Variable  | Experimental Group |          |          | Control Group |          |        |
|-----------|--------------------|----------|----------|---------------|----------|--------|
|           | Pretest            | Posttest | t        | Pretest       | Posttest | t      |
| Total     | 122.72             | 137.48   | -3.04*   | 133.40        | 136.36   | -0.49  |
| History   | 40.38              | 40.82    | -0.31    | 42.08         | 39.58    | 1.26   |
| PE        | 26.29              | 34.76    | -4.87*** | 31.13         | 34.83    | -2.12* |
| Judgment  | 21.11              | 24.07    | -2.67    | 23.31         | 23.65    | -0.30  |
| Recording | 15.28              | 18.15    | -3.76*** | 16.68         | 17.36    | -0.89  |
| Caring    | 19.91              | 19.72    | 0.37     | 20.00         | 19.35    | 0.59   |

Table 3. Differences in learning outcomes after controlling the pre-test influence

| Item    | Creative Learning | Love of Learning | Test Anxiety | Work Values | Intrinsic Values | Expect Success |
|---------|-------------------|------------------|--------------|-------------|------------------|----------------|
| Time    | -7.11***          | -0.05            | -1.18***     | -0.58*      | -0.36            | -0.25          |
| Group   | -2.84***          | -0.75*           | 2.08***      | -0.86*      | -0.83*           | -1.20*         |
| Pretest | 0.00***           | 0.70***          | 0.73***      | 0.73***     | 0.73**           | 0.68***        |
| Cons    | 1.14***           | 6.70***          | 2.43         | 9.64***     | 9.17***          | 11.67***       |

## Results

The Interpersonal relationship and communication were significantly improved in the experimental group.

In the experimental group, statistically significant differences were found for the PE, recording, and the total score, while only the PE was found in the control group.

After controlling the influence of the pre-test score, the intervention could effectively improve students' self-directed learning (creative learning, love of learning), learning-motivation (work values, expectation success, intrinsic values, test anxiety).

The learning satisfaction was significantly higher in the experimental group than that of the control group.

## Conclusion

The study findings provided evidence supporting the utility of a self-directed learning strategy in learning HAPE. The students in the experimental group were more satisfied with the course, attained a higher learning motivation as well as better interpersonal skills, and become more self-directed. Further research may use the case-based study as assignment to improve students' ability to problem judgment